



ID de Contribution: 38

Type: **Oral presentation**

Theoretical and numerical study of recurrent dynamics in dynamical systems and application to the N-body problem

mercredi 28 février 2024 10:15 (15 minutes)

In a famous anagram, Newton wrote that the laws of nature are described by differential equations. However, these equations are not solvable in the general case, in the sense that their solutions cannot be expressed through elementary functions. Stemming from this observation, the theory of dynamical systems aims to determine not the exact state of a system over time, but rather the qualitative behaviour of solutions, possibly on large time scales.

Our work is part of this theory, and aims to highlight, using both mathematical and numerical methods, certain recurrent dynamics of these systems - periodic and quasi-periodic orbits, center manifolds, etc. In this talk, I will describe their application to the three-body problem, with the case of equal masses and that of a perturbed planetary problem.

Astrophysics Field

Planetology (including small bodies and exoplanets)

Day constraints

De préférence le mercredi, pas d'obligation cependant

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